

MEMORANDUM FOR: Distribution

FROM: W/OPS1 - John McNulty

SUBJECT: Radiosonde Surface Observing Instrumentation System (RSOIS) Prototype
Upgrade Installation for Initial Implementation Sites

- 1 Material Transmitted:
Engineering Handbook No. 9 (EHB-9), Aerological Sounding Equipment, Section 3.2,
Modification Note 1, Radiosonde Surface Observing Instrumentation System (RSOIS)
Prototype Upgrade Installation for Initial Implementation Sites.
- 2 Summary:
This modification note provides procedures to upgrade the prototype RSOIS installations.
- 3 Effect on Other Instructions:
None.

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RSOIS MODIFICATION NOTE 1 (for Electronics Technicians)

Maintenance Branch

W/OPS11: AL

W/OPS12: FJZ

- SUBJECT** : Radiosonde Surface Observing Instrumentation System (RSOIS)
Prototype Upgrade Installation for Initial Implementation Sites
- PURPOSE** : To upgrade RSOIS prototypes to full production capability. To baseline surface data for radiosonde (rawinsonde) launches, improve dew point and relative humidity accuracy, provide a 2.4 gigahertz (GHz) spread spectrum radio (for which a Federal Communications Commission license is not required), provide fiber optic communications capability, and implement firmware improvements to algorithms and communications.
- EQUIPMENT AFFECTED** : RSOIS
- PARTS REQUIRED** : Table 1 lists the items that will be issued to each site by W/OPS12 from the National Logistics Support Center (NLSC). Materials listed in table 2 must be supplied by the installing site.

Table 1- System Upgrade Installation Kit

Container No.	Content
K1	Base station, power cable, antenna cable, RS232 terminal cable
K5	Remote Processing Unit (RPU) enclosure w/mounting plates, U-bolt assemblies, 5/16-inch bolts, and desiccant
K6	Directional antenna w/mounting U-bolts and antenna cable
K7	Aspirated shield w/pre-installed mounting bracket, U-bolt, and hose clamp

Table 2 - Site Furnished Material

No.	Item	No.	Item
S4	Assorted UV-resistant tie-wraps	S10	Dielectric compound (Dow Corning DC4 or equivalent)
S8	Electrician's putty	S11	General purpose lubricants and cleaning solvents
S9	Self-vulcanizing (Scotch 70 type) tape	S12	Brushes and rags

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TOOLS AND TEST EQUIPMENT REQUIRED : Tools and test equipment required for the RSOIS upgrade installation, test, and maintenance are listed in tables 3 and 4.

Table 3 - Required Tools

No.	Item	No.	Item
T5	1" Open-end wrench	T12	3/16" Allen key
T6	Adjustable wrench	T13	7/16" Open-end wrench
T8	7/16" Deep socket	T14	7/16" Open-end socket wrench
T9	5/16" Nut driver	T15	9/16" Deep socket
T10	C" Flat-blade screwdriver	T17	Pliers
T11	Small side diagonal cutters		

Table 4 - RSOIS Test Equipment

Equipment	Requirement/Use	Source
Digital multi meter	Measure 425AHW shunt resistor resistance value	RSOIS installation site
ProCOMM V 4.7 (any terminal type software can be used, i.e., hyper terminal, etc.)	Direct System Interface	NLSC Project: ASOS ASN: S100-TE318-2 NSN: NWS9-83-420-001

MODIFICATION PROCUREMENT : System Upgrade Installation Kit to be provided to affected sites.

SITES AFFECTED	: <u>Site Name</u>	<u>SID</u>	<u>Org. Code</u>
	WSO Metlakatla, AK (Annette Island)	ANN	WV9381
	WFO Medford, OR	MFR	WT9597
	WSO Fairbanks, AK	FAI	WV9261
	DCO Lihue, HI	LIH	WW9165
	WFO Miami, FL	MFL	WP9918
	WFO Chanhassen, MN	MPX	WR9658
	WFO Boise, ID	BOI	WR9681
	WFO Santa Teresa, NM (El Paso, TX)	EPZ	WP9270

ESTIMATED TIME REQUIRED : 4 staff hours to install the system upgrade

EFFECT ON OTHER : None.

INSTRUCTIONS

AUTHORIZATION : This modification note is authorized by the Engineering and Acquisition Branch (W/OPS11).

VERIFICATION : This modification note has undergone an installation test at Sterling, VA
STATEMENT and National Weather Service (NWS) Headquarters, Silver Spring, MD.

DISPOSITION OF : All replaced (removed) items are to be returned by way of traceable
REPLACED ITEMS routine transportation to:

DOC/NOAA/National Weather Service
National Reconditioning Center, Logistics Unit 4
Attn: Bobby Owen, W/OPS162
520 E. BANNISTER Road
KANSAS CITY, MO 64131-3009
PH: (816) 823-1066 x247

Attach Equipment Return Tag, WS Form H-14 (see attachment C).

Clearly mark the boxes on the OUTSIDE & INSIDE:

ASN: S200-PUTEMP
NSN: NWSO-11-340-008
Due-In: 40WCNW-PAY-2023

TECHNICAL : For questions or problems pertaining to this modification procedure,
ASSISTANCE please contact Franz J. G. Zichy at (301) 713-1833 x128.

GENERAL:

The RSOIS is an automated surface observing system used by the NWS to report sensor data as required for radiosonde (rawinsonde) development and radiosonde observation. The system has six major components: RPU, Temperature/Humidity Unit, Ultrasonic Wind Sensor, Base Station, Lightning/Ground System, and Directional Antenna.

The RSOIS Prototype Upgrade is intended to improve system performance, based on operational response, during the initial system deployment. The prototype upgrade is functionally identical to the production systems with only minor differences in the configuration.

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PROCEDURE:**1 PRE-INSTALLATION REQUIREMENTS****CAUTION**

NEVER turn the Base Station ON without the unit antenna connected, as serious damage to the radio may occur.

1. Remove existing Base Station.
2. Identify the upgraded Base Station (container K1) (see **Figure 1**) and the associated hardware (packaged in a plastic bag).
3. Connect the antenna, power cable, and terminal cable.
4. Connect the Base Station to a 115 VAC outlet to maintain a maximum charge on the battery.
5. Make note of the Base Station serial number and be certain not to confuse the existing Base Station with the upgraded one.



Figure 1

2 POWER-OFF AND ANTENNA/SENSORS DISCONNECT PROCEDURE

1. Locate and switch the main power "OFF" at the *Breaker Panel* or *Disconnect Box*. "Tag-Out" the switch out and verify that power is off. Open the RPU enclosure and inspect all alternating current (AC) connections with a multimeter and verify there is no AC power at the RPU power supply.
2. Loosen the input power screws (marked AC POWER) using a 1/8 inch flat-blade screwdriver (T10). Remove the black wire from (L), the white wire from (N), and the ground wire from ground.
3. Disconnect the positive lead (white), then the negative lead (black) from the ring lugs on the battery terminals with the hardware provided. Place the nut, bolt and washers on the ring lug for shipment.

CAUTION

DO NOT place the lead-acid battery on bare concrete. This could cause the battery to prematurely self-discharge due to temperature stratification of the cell.

4. Remove the lead-acid battery from its tray in the RPU enclosure. The battery should be placed upright on an insulated barrier such as cardboard or bubble wrap.
5. Remove the 1-inch conduit feed-through nut, plastic washer, compression fitting and the Liquitite conduit from the RPU enclosure. Gently pull the wires out through the feed-through.
6. Place the 10-foot RS-232 technician's cable in the door pocket. Close the RPU enclosure and tighten the door using a 7/16 inch socket wrench (T14).
7. Disconnect the RPU antenna (or antenna) cable from the UHF connector on the far right bottom of the RPU enclosure. Once the antenna (or antenna cable) has been disconnected, remove the cable and antenna from the tower.
8. Disconnect the aspirated shield assembly connector (two-wire) from the RPU enclosure.
9. Disconnect the wind sensor connector (one-wire) from the RPU enclosure.
10. Locate the grounding lug on the bottom left of the RPU enclosure. Remove the copper ground wire from the grounding lug from the ground lug on the enclosure using a $\frac{1}{8}$ inch flat-blade screwdriver (T10). Remove any tie-wraps as appropriate.
11. Loosen the two 5/16 inch bolts on the RPU lower mounting bracket so the threads of the 5/16 inch bolt are visible from only one side of the nut, leaving the bolts as loose as possible.
12. Remove the two 5/16 inch bolts, washers, lock washers, and nuts from the RPU upper mounting bracket. Steady the enclosure with forward pressure until ready to remove. Save the hardware, it will be used again in step 16.
13. Lift the RPU enclosure and pull it away from the tower. Place the enclosure gently on a cardboard or bubble wrap until ready to pack.
14. Carefully unpack the new NEMA-4 stainless steel upgraded RPU enclosure (K5) (30" x 24" x 13") (see **Figure 2**). Place the enclosure gently on cardboard

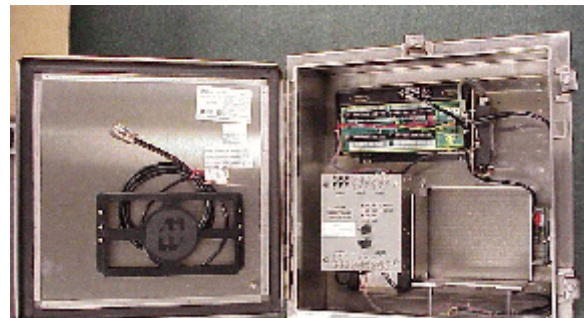


Figure 2

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or a sheet of a bubble wrap until you are prepared to mount it on the tower.

15. Lift the Upgraded RPU enclosure to the lower mounting bracket prepared in step 11. Place the open slots on the rear lower mount of the RPU enclosure over the bolts behind the washer firmly, pressing the cabinet back against the tower so the upper part of the RPU enclosure is flush against the upper mounting plate. Tighten the bolts just enough to secure the enclosure, leaving them loose enough to adjust the upper holes.
16. Push the two 5/16 inch bolts, one at a time, through the upper RPU enclosure mounting plate and install a washer, lock washer, and 5/16 inch nut on each. Firmly tighten the 5/16 inch bolts attaching the RPU enclosure to the upper mounting plate. Firmly tighten the 5/16 inch bolts attaching the RPU enclosure to the lower mounting plate.
17. Open the upgraded RPU enclosure using a 7/16 inch socket wrench (T14). Make note of the serial number and both the primary and secondary ID numbers. Document the Zeno® 3200 SDL serial number and NFC ID # (CDXXXXXXXXXX) on the EMRS report and CD509. The RPU serial number and the ZENO 3200 serial number should be the same.

NOTE: If the radio will be used in temperatures below 30° Celsius, a heater must be installed.

18. If appropriate, install a heater. Attach the glue side of the RPU assembly heater (P/N S200-1A1RT1HR1) under the radio mounting plate and connect the two red wires to the line and neutral of LOAD FOUR on the RPU power supply. Secure the wires using appropriately sized tie-wraps (S4).
19. Remove the 1 inch conduit feed-through nut, plastic washer and compression fitting from the RPU enclosure. The nut and plastic washer from the replaced system should already be over the Liquitite conduit. The compression fitting should already be present. Feed the three (3) AC power wires through the feed-through and screw the assembly into the enclosure.
20. Loosen the input power screws (marked AC POWER) using a $\frac{1}{4}$ inch flat-blade screwdriver (T10). Insert the black wire to (L), the white wire to (N), and the now covered ground wire to ground. Firmly tighten all screws.
21. Use electrician's putty (S8) inside the RPU enclosure around the input power cable at the Liquitite conduit to prevent moisture intrusion.

CAUTION

DO NOT turn the power back on.

22. Close the enclosure and tighten the door using a 7/16 inch socket wrench (T14). Continue installation of remaining upgraded RSOIS components.

3 DIRECTIONAL ANTENNA INSTALLATION PROCEDURE

1. Unpack the directional antenna box (K6) (19" x 6" x 4") containing the Yagi antenna with mounting hardware [(2) U-bolts with washers and locknuts, (2) mounting brackets, and (1) flat backing plate], manual and warning sticker (see **Figure 3**).

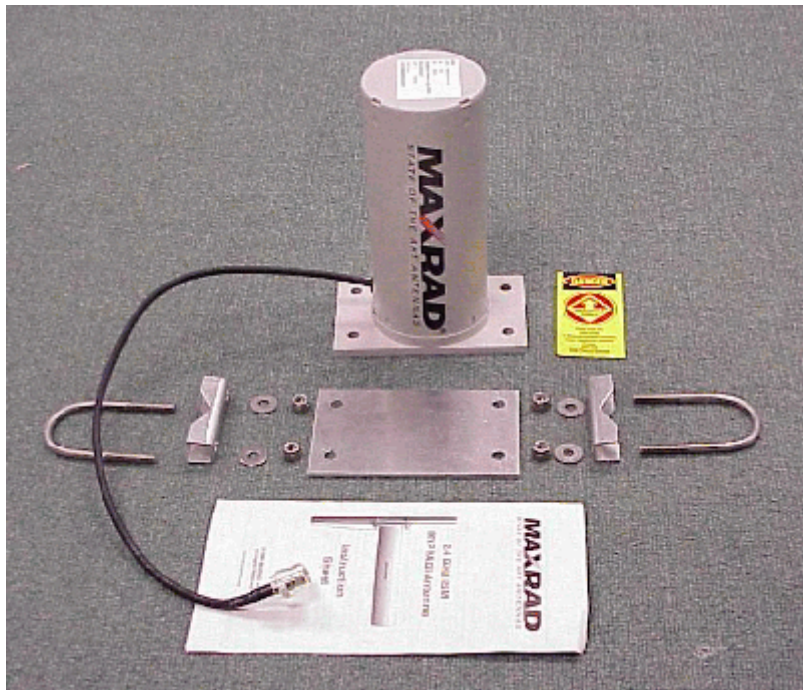


Figure 3

2. The antenna should be installed approximately 10 feet above the bottom of the enclosure with the provided U-bolts, mounting brackets, and flat washers.
3. Place one of the U-bolts over the tower (or mast) and then one mounting bracket is placed notched side toward the tower over the U-bolt.
4. Place and align the backing plate to the back flat side of the antenna housing and place the assembly on the U-bolt as shown in **Figure 4** [the arrows on the antenna housing should face up (↑)].
5. Loosely install the flat washers and locknuts.

6. Place second mounting bracket notched side toward the tower (or mast) between the tower and backing plate.
7. Push the second U-bolt over the tower and through the notched mounting bracket, flat mounting plate and antenna.
8. Loosely install the flat washers and locknuts.
9. Point the antenna toward the Base Station antenna. The accuracy of the orientation must be within plus or minus 15 degrees ($\pm 15^\circ$) of center to achieve maximum gain.

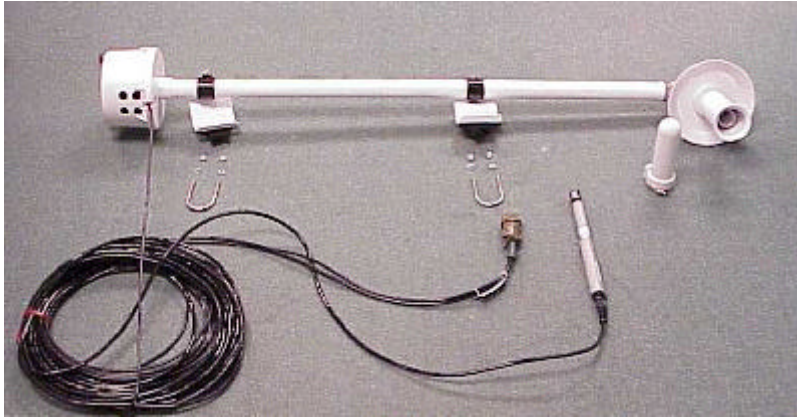
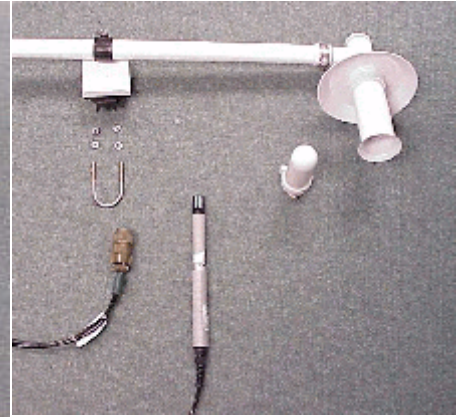
CAUTION

Do not exceed 45 inch-pounds of torque on nuts and screws.

10. Tighten all four locknuts securely. DO NOT over tighten.
11. Connect one end of the antenna cable to the antenna connector/cable and wrap it with self-vulcanizing (Scotch 70 type) tape (S9).
12. Connect the other end of the antenna connector/cable to the connector on the RPU enclosure and wrap it with self-vulcanizing (Scotch 70 type) tape (S9).
13. Tie the antenna cable to one leg of the tower (away from the sensor cables) with a tie-wrap.

4 INSTALLATION OF THE ASPIRATED SHIELD ASSEMBLY

1. Unpack the temperature/relative humidity sensor box (K7) (3'10" x 12" x 10½") containing the temperature/relative humidity sensor with aspirator, connector and mounting hardware (2) U-bolts with washers and locknuts (see **Figure 5** and **Figure 6**).

**Figure 4****Figure 5**

2. Verify that the existing mounted sensor is oriented so the bottom of the sensing element inside the aspirator intake is 5 feet \pm 1 foot above ground level. The sensing arm should be level to within two degrees of horizontal and have an approximate east to west orientation with the sensing element on the west side.

NOTE: If the aspirated shield is fully assembled, proceed to step 9. If not assembled, complete steps 3 through 8.

NOTE: The standard 43408 Gill Aspirated Radiation Shield is normally supplied with a threaded plug for holding the temperature sensor, junction box, and split bushing. The junction box provides terminals for cable connections and properly positions the sensor within the shield assembly.

3. Thread the shield assembly into the appropriate threaded opening in the shield mounting tee at the end of the telescoping arm. Tighten the shield by hand being careful not to cross-thread or over tighten.
4. Place the band clamp over the top of the shield mounting tee.
5. Insert the sensor into the shield mounting tee, adjusting the position of the sensor tip, if necessary. Place the sensor so its tip will be ± 2.75 inches (± 70 mm) from the bottom opening of the intake tube. Refer to the *RSOIS Operation Manual, Sensor Manual, Section View of the Temperature Shield* drawing. Readjust as necessary, improper installation may block the airflow, causing errors in measurement and the fan fail bit to be set.
6. Tighten the threaded split bushing to secure the probe in place. Do not over tighten.

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7. Place the probe top cover over the top of the probe/cable. The strain relief on the cable can be bent all the way to accomplish this. The probe top cover should rest inside the band clamp and the cable should feed through the channel.
8. Tighten the band clamp securely.
9. Remove the pre-installed mounting bracket assemblies with a 7/16 inch socket (T8) and slide the black ring to match the existing mounting on the vertical legs of the tower.
10. Remove the existing temperature/relative humidity sensor assembly by removing the bolts from the pre-installed mounting bracket assemblies with the 7/16 inch socket (T8).
11. Install the NEW upgraded temperature/relative humidity sensor assembly by re-installing the bolts from the pre-installed mounting brackets with the 7/16 inch socket (T8). DO NOT OVER TIGHTEN.

NOTE: Attach the aspirator to the existing mounting brackets so the mounting arm is horizontal, and the blower exhaust vents are facing downward.

12. Loosen the band clamp holding the telescoping mounting arm using the 5/16 inch nut driver (T9) or flat-blade screwdriver (T10).
13. Extend the arm so the shield intake is at least 24 inches (60 cm) from the tower. Adjust the shield so the intake opening is facing vertically downward. Tighten the band clamp from step 9 using the 5/16 inch nut driver or flat-blade screwdriver.

5 CONNECTIONS AND POWER-ON

1. Connect the RPU antenna cable (K6) to the UHF connector on the far right bottom of the RPU enclosure. Once the antenna (or antenna cable) has been connected, wrap the UHF connector in self-vulcanizing (Scotch 70 type) tape (S9) to seal against moisture.
2. Connect the aspirated shield assembly connector (2-wire) to the front right connector on the bottom of the RPU enclosure. ALL connectors are keyed - DO NOT force the connector. Finger tighten and turn an additional ¼ turn using pliers (T17).
3. Connect the wind sensor connector (1-wire) to the front left connector on the bottom of the RPU enclosure. ALL connectors are keyed - DO NOT force the connector. Finger tighten and turn an additional ¼ turn using pliers.

NOTE: Apply a dielectric compound (S10) on the face of the RSOIS pin connections, and a material such as Dow Corning's G-N Metal Assembly Paste® on threads.

4. Dress and secure ALL cables using tie-wraps (S4).
5. Open the RPU enclosure and inspect all connections for compliance with this procedure.
6. Install the lead-acid battery on its tray in the upgraded RPU enclosure. The battery should be upright with the identifying labeling and terminals facing out and the POSITIVE (+) terminal on the right.

CAUTION

Prior to connecting the battery leads, make sure the antenna is connected to avoid damage to the radio. Once the battery leads are connected, the system is ON.

7. Connect the positive lead (white), then the negative lead (black) to the appropriate ring lugs on the battery terminals with the hardware provided.
8. Place the packets of desiccant in the enclosure, if provided (Desiccant D25-3, ASN S200-1A1DES).
9. Close the RPU enclosure and tighten the door using a 7/16 inch socket wrench (T14).
10. From procedure 2 (step 1), locate the main power switch. Switch the main power back on and remove "Tag-Out".

6 BASE STATION ID SETUP

The Base Station and RPU are equipped to communicate with each other by data radio. It is essential to properly configure the Base Station to receive data transmissions from the RPU.

It is necessary to have a suitable terminal program, such as ProCOMM or Windows Terminal and a suitable cable for connecting to the Base Station. It is also necessary that terminal communications are established with the Base Station and the primary ID and secondary ID of the RPU are known. Both the RPU and Base Station must be configured and functional. Appendix **E** to attachment **A** illustrates this procedure.

The RPU will transmit messages at an average rate of every five to seven seconds. These messages are transmitted via radio and are received at the Base Station regardless of the proper or improper ID settings of the Base Station. By monitoring the data available on the RS232 connection at the Base Station, you should see a data transmission approximately every five seconds per the following example:

#05130013

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01/01/25,15:26:35,11,13,331,0,20,0,1.3,-5.5,60,20,0,0,8

#0513**0013**

01/01/25,15:26:40,11,13,332,0,20,0,1.3,-5.5,60,20,0,0,9

The string of numbers immediately following the pound sign (#) are a pair of four digit IDs (shown in bold). The first four digit number is the destination address for the transmission:

#0513**0013**

The second four digit number is the originating address of the transmission:

#0513**0013**

Follow the instructions in attachment **A** to set the primary ID and serial sensor destination address. If either of these do not correspond to the addresses being sent by the RPU, then data will not be available on the Base Station's LCD display.

If the changes were made properly and the RPU is still sending data, then data should be seen on the LCD panel of the Base Station. If this does not occur, monitor the RPU data transmissions as they are received and subsequently echoed on the Base Station's serial port. Note the addresses and then go through the menus outlined in the steps above to verify the primary ID and asynchronous CCSail sensor destination address are both set correctly.

7 ESTABLISHING COMMUNICATIONS

Communications with the RSOIS can be established via a laptop computer at the SDL via COM3 using the dedicated terminal cable, the fiber optic modem using the dedicated terminal cable, or directly through the Base Station radio. Any communication package may be used - NO proprietary software is required. The *Zeno®-3200 User Manual* adequately describes the basic procedures. The RSOIS interface is not case sensitive.

CAUTION

To avoid damage to the Base Station radio, never plug the unit into 115VAC while in the ON position. Never turn ON the unit without the antenna attached.

8 BASE STATION AND RPU COMMUNICATION LINK SETUP

The Base Station and RPU communicate with each other by a data radio modem or by a serial fiber optic cable driver modem. Either link may be used. However, both links should not be operated in the Base Station at the same time because doing so may cause communication errors. Software configuration changes are not required to switch between the two modes.

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CAUTION

Be sure to disconnect power to the Base Station, RPU, and battery while making any hardware changes. Failure to do so may cause permanent damage.

9 REMOTE ACCESS TO THE RPU

The RPU may be accessed remotely through the serial port of the Base Station. This allows an operator at the Base Station to perform routine maintenance without physical access to the RPU.

To facilitate remote access, the Base Station has a mode called “terminal pass-thru” mode. Follow the instructions in attachment **A**, appendix **L**, and in the *Zeno® Manual*, page 19 to enter this mode. Once in terminal pass-thru mode, enter the menu system of the RPU by issuing standard Zeno® commands. The commands are sent via the active communications link (radio or fiber optic cable). Responses from the RPU are received by the Base Station and then echoed on the communication port of the Base Station. In this way, the remote communication appears transparent during the terminal pass-thru mode session. When finished communicating with the RPU, exit pass-thru mode so the Base Station can resume normal operations.

To establish remote communication with the RPU, setup ProCOMM or other serial communications package according to attachment **A**, appendix **D**. Establish an RS-232 serial connection with the Base Station, and then follow attachment **A**, appendix **E**.

NOTE: When finished communicating with the RPU remotely, completely exit the menu system of the RPU before exiting the “terminal pass-thru” mode of the Base Station.

10 SYSTEM INFORMATION AND SETUP INSTRUCTIONS

System descriptive information, setup, and system administration procedures are contained in the *RSOIS Organization Level Maintenance Manual* supplied with each upgraded system.

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REPORTING INSTRUCTIONS:

Report completed modification on a WS Form A-26, Maintenance Record, using the instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and Appendix J. Include the following information on the WS Form A-26:

Equipment code of **RSOIS** in block 7.

The correct serial number of the RSOIS in block 8.

Modification number as **1** in block 17a

A sample WS Form A-26 is provided as attachment **B**.

A sample Equipment Return Tag, WS Form H-14 is provided as attachment **C**.

John McNulty
Chief, Maintenance, Logistics, and Acquisition Division

Attachment **A** - RSOIS Setup and Support Documentation

Attachment **B** - WS Form A-26 Sample

Attachment **C** - Equipment Return Tag, WS Form H-14

Attachment A

RSOIS Setup and Support Documentation

NOTE: The complete appendix package is contained in the *RSOIS Organization Level Maintenance Manual* to be supplied with each production system.

Appendix A	RSOIS Description
Appendix B	Installation Checklist (Not supplied)
Appendix C	Obtain Solar Noon (Not supplied)
Appendix D	Setup ProCOMM
Appendix E	Base Station Setup
Appendix F	Saving Base Station Configuration Files
Appendix G	Saving RPU Configuration Files
Appendix H	Data Retrieval
Appendix I	Wind Sensor Communication and Interrogation
Appendix J	Changing System Time
Appendix K	Checking RPU
Appendix L	Base Station and RPU Configuration Upload
Appendix M	Heater Relay Test
Appendix N	Parts List

Attachment B
WS Form A-26 Sample

		WS FORM A-26 (4/94) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE ENGINEERING MANAGEMENT REPORTING SYSTEM MAINTENANCE RECORD				Document Number G 49986	
General Information		1. Open Date 4 / 30 / 01	Time 0900	2. Initials JMM	3. Response Priority (check one) <input type="radio"/> Immediate <input type="radio"/> Routine <input checked="" type="radio"/> Low <input type="radio"/> Not Applicable	4. Close Date 4 / 30 / 01	Time 1300
5. Description Upgrade RSOIS prototypes to full production capability.							
Equipment Information		6. Station ID EPZ	7. Equipment Code RSOIS	8. Serial Number 1495	9. TM M	10. AT M	11. How Mal. 999
12. EQUIPMENT OPERATIONAL STATUS TIMES		a. Fully Operational <input type="text"/>	b. Logistics Delay <input type="text"/>	Partly Operational	c. All Other <input type="text"/>	d. Logistics Delay <input type="text"/>	Not Operational <input type="text"/>
13. Parts Failure Information						14. Work Load Information	
Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.
1							
2							
3							
4							
5							
Miscellaneous Information		15. Maintenance Comments Completed RSOIS upgrade I.A.W. RSOIS Modification Note 1					16. Initials JMM
17. SPECIAL PURPOSE REPORTING		a. Mod. No. 1	b. Mod./Act./Deact.Date 4/30/01	c.	d.	e.	
18. CONFIGURATION MGMT. REPORTING (use as directed)		ASN	Vendor Part No. (New Part)		Serial Number (Old Part)		Serial Number (New Part)

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Attachment C

Equipment Return Tag

1. STATION CALL LETTER IDENTIFIER <i>Fill Out</i>		2. ORGANIZATION CODE (Station) <i>Fill Out</i>		3. TASK NUMBER (NOAA)		4. FAILURE DATE <i>DATE RETURNED</i>	
5. ITEM NAME <i>R5015 S200-1</i>		6. NWS STOCK NUMBER <i>S200-PO TEMP</i>		7. ITEM SERIAL NUMBER <i>26403600 S/N</i>		8. CHASSIS S/N <i>26403600 S/N</i>	
9. PRIMARY REASON FOR RETURN (Check appropriate blocks) <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> 01 <input type="checkbox"/> Defective (Returned for repair) 02 <input type="checkbox"/> Returned for calibration 03 <input type="checkbox"/> Excess stock 04 <input type="checkbox"/> Within warranty 05 <input checked="" type="checkbox"/> Instructions from Weather Service Headquarters </div> <div style="width: 45%;"> 06 <input type="checkbox"/> Instructions from Regional Headquarters 07 <input type="checkbox"/> Incorrect item received 08 <input type="checkbox"/> Received defective 09 <input type="checkbox"/> Damaged in transit 10 <input type="checkbox"/> Other (Amplify below) </div> </div> 11 Failed Diagnostics Yes <input type="checkbox"/> No <input type="checkbox"/>				THIS BLOCK FOR HEADQUARTERS USE ONLY			
				13. DATE RECEIVED AT NRC			
				14. REPAIRED BY		DATE	
				15. QUALITY CONTROL		DATE	
10A. EMRS FAILURE REPORT NO. (A-23 DOCUMENT NO.) →				16. REMARKS (Surveyed, etc.) <i>List Any Damage</i>			
10B. REPLACEMENT REQUISITION NUMBER →							
11. DEFECTIVE COMPONENT, DESCRIPTION OF MALFUNCTION OR REASON FOR RETURN <i>PROTOTYPE UPGRADE</i>				17. DATE RETURNED TO STOCK (NLSC)			
12. COMPLETED BY AND TELEPHONE NO. →		<i>Fill Out</i>		18. DATE RECEIVED AT NLSC			

DOCUMENT NO. 171507

TIE SECURELY TO THE ITEM BEING RETURNED

U.S. GOVERNMENT PRINTING OFFICE: 1962-351 532

NWS FORM H-1-14 EQUIPMENT RETURN TAG (5-90)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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